WHAT IS CLAIMED IS:

Sub A1

1. An IR lens comprising:

a first surface; and

a second surface,

wherein the IR lens is a moldable IR transmissive material and at least one surface is an optically significant surface.

2. The IR lens of claim 1, wherein the optically significant surface comprises a surface relief holographic grating.

Sub A2

3. The IR lens of claim 2, wherein the optically significant surface is formed directly in a molding operation.

4. The IR lens of claim 1, wherein the moldable IR transmissive material is a chalcogenide glass.

Sub C3

5. The IR lens of claim 1, wherein the moldable IR transmissive material is an arsenic selenide glass.

6. The IR lens of claim 1, wherein the lens is manufactured as a unitary structure in a molding operation.

Sub A3

7. An IR lens comprising:

a first surface; and

a second surface,

wherein the IR lens is made from a moldable IR transmissive material and wherein at least the second surface is an optically significant surface molded from the moldable IR transmissive material.

8. A method of forming an IR lens comprising the steps of:

heating a moldable IR transmissive material above the glass transition temperature;

molding the moldable IR transmissive material into a shape for an IR lens with at least one surface that is an optically significant surface; and

cooling the moldable IR transmissive material to below the glass transition temperature.

9. The method of claim 8, further comprising the step of:

coating at least a first surface ~~with an optical surface~~ coating.

10. The method of claim 8, wherein molding is slump molding, casting, or injection molding.

11. The method of claim 8, wherein cooling is ambient cooling or quenching.

12. The method of claim 8, wherein the moldable IR transmissive material is an arsenic selenide glass.

13. An IR lens comprising:

a first spherical surface: and

a second nonspherical surface, wherein the second nonspherical surface comprises a surface relief holographic grating,

wherein the lens is made from a moldable IR transmissive material.

14. The IR lens of claim 13, wherein the moldable IR transmissive material is a chalcogenide glass.

15. An infrared imaging optical arrangement comprising:

a first lens; and

a second lens, wherein at least the first lens is made from a moldable IR transmissive material and wherein at least the first lens has at least one optically significant surface.

16. The infrared imaging optical arrangement of claim 15, wherein the optically significant surface comprises a surface relief holographic grating.

17. The IR lens of claim 15, wherein the moldable IR transmissive material is a chalcogenide glass.